

# The SI-TEX NAV-FAX 200 Communications Receiver

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The SI-TEX NAV-FAX 200 is a small tabletop shortwave receiver covering 30 kHz to 30 MHz, operating AM, USB, or LSB modes. It runs on externally supplied 12 Vdc, with a black plastic case that measures about 2"H X 10"W X 10"D.

## ❖ First Impressions

Initially, I was quite surprised when the 200 to be used for this review arrived in a relatively small carton. The first word that came to my mind after unpacking it from its box was, "Spartan!" Wow, this radio is simple – three knobs and four buttons on the front-panel, and three jacks with one switch on the rear.

Looking at the SI-TEX website, the 200 seems to be marketed mainly toward the mariner, and in that application it's sure to please those who are trying to keep things simple when on the water. But I wouldn't be too quick to relegate it to just maritime use; I could see it finding its way into an SWL or Ham shack for use as a simple emergency receiver.

## ❖ Ergonomics

Although this is a rather small tabletop, having so few front-panel controls leaves plenty of "real estate" to keep things from being cramped. There is nothing worse, for me at least, than having a small radio with so many knobs and buttons on the front panel that you need a 10-year-old's fingers to operate it.

The tuning knob is about 1.5", is substantially weighted, and has a finger-dimple, which, all together, provide for a good feel. It works nicely when tuning slowly, but gives you the inertia required to get from one frequency to another quickly, with one or more flicks of the knob.

There is an internal 3", 2-Watt speaker whose audio is projected forward through a vented opening on the top-cover.

A small wire front-stand can be unfolded down from the bottom-panel to elevate the front by about 1".

## ❖ Tuning

Aside from the tuning knob, the only other way to change frequency is by selecting a memory channel, of which the 200 has ten. The frequency readout is in whole kHz – that's right, no fractional kHz – with fixed tuning steps of 1 kHz.

However, it does have a four-level, automatically adjusting tuning rate – the faster you spin, the larger the step. When using USB or LSB, the clarifier covers most of the 1 kHz in-between steps. With the majority of the maritime channels being predefined frequencies, the clarifier arrangement is quite adequate. However, this can be a very frustrating feature if attempting to casually tune through an amateur radio band.

## ❖ Memory Channels

Programming one of the ten memory channels with the currently tuned frequency is as simple as pressing the MEM button, scrolling to the channel number using the tuning knob, then pressing MEM again. As you scroll through the memory channels, the content of each is displayed to help prevent accidental over-write. Recalling a memory requires pressing the RCL button, scrolling to the desired channel, and then pressing RCL again.

## ❖ Front Panel Reset

In case of any operational problem, such as might be caused by an electrical transient, there is an RST button to reset the radio and return it to the frequency and mode of the first memory-channel. This could be used to your advantage if you have a frequency that you return to frequently, say, a "Home" frequency. Program the first memory-channel to your "Home" frequency, then whenever you want to return there, just press RST. And, because you've stored the frequency in the first memory-channel, no matter where you were listening when you turned

off the receiver, it will always turn on to your "Home" frequency.

## ❖ The Display

The 200's display is about 1"H X 3"W, has frequency numerals that are about one half inch tall, and has no backlighting. This was surprising to me, even considering the target audience; I would have expected some minimal readout lighting.

The S-meter, which doubles as a memory channel indicator, is a multi-segment LCD bar located at the bottom of the display. Mode is displayed to the left of the operating frequency, with each mode having its own discrete indicator.

## ❖ Other Front-panel Controls

The volume knob not only controls audio level, but is also the on/off switch; turning the knob fully counter-clockwise shuts the radio off. The clarifier has a +/- 800 Hz range to compensate for the 1 kHz tuning and has a small indicator-dot to show the current position.

## ❖ The Rear Panel

As I said earlier, this radio is simple. You won't find a plethora of jacks and switches on the rear panel, just power, antenna, attenuator, and WEFAX Data Output. The Antenna jack is an RCA Phono jack and comes with a lug for soldering a ground connection.

The 200 even comes with a pre-built long-wire antenna – plug it in and you're ready to go. I didn't measure the attenuation, but it seems to be somewhere between 10 and 20 dB. The WEFAX Data Output is a monaural 1/8" jack that carries audio, not digital data.

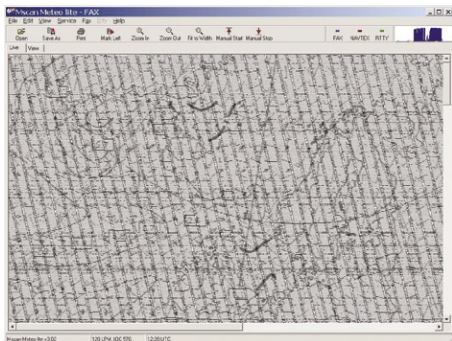
## ❖ Power-up Default

Each time you turn the radio on, it automatically sets the frequency to whatever has been stored in first memory-channel.

## ❖ Special features

One of the 200's advertised features is its ability to receive shortwave data transmissions, specifically: FAX, NAV-TEX, and RTTY. I know, there are those of you saying, "Yeah, it and every other radio that tunes SSB." But, the combination of the WEFAX Data Output jack, supplied decoding software and





interconnect cable set it apart from other radios in its price range. It ships with a CD containing a decoding program called Mscan Meteo Lite. Plug the radio's WEFAX jack to your computer's sound-card line-in jack, run the software, tune in a WEFAX signal, and you're in business, weather charts galore. And if that's not good enough, you can also decode NAVTEX and RTTY.

### ❖ The Manual

I don't usually comment on manuals unless there is something remarkable. The manual for the 200 is, like the radio, small and simple. It's not laid out the way most of us "radio enthusiasts" are used to; it has more of a tutorial flavor. The manual does a good job of providing easy to understand conceptual information about radio, and weaves the operation of the radio into the tutorial. Once again, given the target audience, it is probably just what is needed to help the beginner get started.

### ❖ How Does It Play?

The advertised bandwidth in AM is 6 kHz, and while I did not specifically measure it, the filter performance seems very good. Tuning through the shortwave bands at night is usually a good test for a receiver's selectivity, and I am happy to report that there was very minimal heterodyning heard. Audio fidelity was good, and in fact was quite impressive for a 3" internal speaker.

Single-sideband has a specified bandwidth of 3.8 kHz, and once again, I didn't measure it, but this time I was a little less impressed. The recovered audio from the signal was fine, but it seemed like the high-end of the audio pass band was a little too high. There was a fair amount of static crashing one evening and it kept an almost constant high-frequency noise in the background. A switchable low-pass audio filter would work wonders to improve the audio.

Published specs give sensitivity as 1uV, apparently across the board. Table 1 reports sensitivity as I measured it, using the audio output at the WEFAX Data Output jack, in AM and USB.

Since I don't do much with WEFAX, I figured I'd give it a try. The software documentation makes the proposition sound as easy as falling down - well, almost. So I installed and ran the software, plugged the radio into the computer, tuned in one of the WEFAX signals, and voila, nothing.

After some consulting with the program's help system, I was finally able to view weather maps, not very clearly, but definitely weather maps. Unfortunately, I was never able to get the full-automatic capabilities of the software

to work, but I'm sure it's something I'm doing wrong. You're supposed to be able to just tune in a WEFAX frequency and sit back and wait: the software detects the start of an image and sets itself up to receive without you touching a thing. Pity I couldn't see it in action. I've included a screen snapshot of one of my more successful map intercepts.

### ❖ Final Thoughts

I'll have to admit, I'm impressed. Sure, it's not a Watkins-Johnson, but I enjoyed it for its simplicity and good performance. I think that an external speaker jack would not only be a nice addition for the audio's sake, but it would provide for a remotely located speaker. However, if simplicity and good performance are what you are looking for, at sea or on land, this radio may be just for you.

The 200 has a list price of \$549, but can be found on the Internet for less than \$400. For more information about the NAV-TEX 200, go to <http://www.si-tex.com> or SI-TEX Marine Electronics Inc., 11001 Roosevelt Blvd., Suite 800 St. Petersburg, Florida 33716, (727) 576-5734, FAX (727) 570-8646.

**Table 1: Measured Sensitivity**

10 dB (S+N)/N Freq/Mode (MHz)	AM	USB
1.0	1.6 uV	0.9 uV
6.0	1.6 uV	0.9 uV
12.0	1.6 uV	0.9 uV
18.0	2.1 uV	1.4 uV
29.0	2.5 uV	1.8 uV



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